OPERATIVE TREATMENT OF CANCER OF LIPS, TONGUE, FLOOR OF MOUTH, AND PHARYNX.[1]

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WHAT are the end-results of our present methods of operating? what changes in such methods, if any, can advantageously be made?—these are the subjects before us for discussion. Leaving out of consideration death due to the operation itself, consequent upon shock, hæmorrhage, or it may be septic infection (each in a large measure preventable), the questions are, In what proportion of cases is recurrence now prevented? and how can that proportion be increased? Whereever situated carcinoma is for a time local, and its generalization is practically altogether through the lymphatics. Reappearance in the immediate vicinity of the primary growth shows incomplete removal of such growths in the neighboring glands, failure to discover and take away such glands already infected. No operation fulfils the indications, therefore, that does not effect the extirpation of the disease; but when, from the location and extension, the cancer cannot be thoroughly cut away, that operation is best which, saving life for the time being, secures longest immunity from secondary growths, external and internal.

Cancer of the lip, as it commonly presents itself, affects more or less widely the free border with a limited infiltration of the underlying tissues. So long as its locality is thus restricted it can be safely, readily, and thoroughly removed, and the ordinary excision of a V-shaped mass is entirely satisfactory; provided only that so much tissue laterally and towards the chin is taken away, as will include all the diseased area. As respects the extent of removal of lip and chin errors of omission are far in

[1] This and the following papers on the treatment of cancer in various localities were read before the American Surgical Association, session of 1895.

excess of those of commission. It is, however, only in a minority of the cases coming under care that the disease is thus limited. In the course of four, or five, or it may be six months after the appearance of the initial lesion, infiltration of a gland or glands under the jaw has generally taken place. At times unquestionably the glandular enlargement is from irritation, not infection, and will subside after operation upon the lip, but this is so exceptional that it should be regarded as practically non-existent. To this secondary lymphatic disease and the extensions therefrom is due the great majority of the 60 or 65 per cent. of failures to effect a cure, seven-eighths of the recurrences showing themselves within a year.

In all cases, therefore, in which any enlarged gland, be it ever so small, can be felt, it should be cut down upon and removed. Even if nothing can be detected upon palpation, it is certainly wise in any case in which the lip-disease has existed for several months to open up the submaxillary space and thoroughly examine it, for in this form of cancer as in other, infected glands may thus be found, the presence of which cannot be determined through the unbroken skin. The gravity of the operation is but little, if at all, increased by such exploration, and the probability of recurrence will be greatly lessened by the discovery and removal of enlarged glands. In the cases too often seen in which there is extensive disease of the soft parts over and below the jaw, and even of the jaw itself, operation will often afford much relief sometimes, though, unfortunately, but seldom effect a cure. Improvement in the treatment of cancer of the lip must lie in earlier and more thorough operative interference.

Cancer of the tongue is seen in about one-tenth of all the subjects of carcinoma. In the great majority of the cases coming under observation glandular enlargement is present (83 per cent. of the ninety-four Middlesex cases). As a rule, it is developed early, not seldom found to exist as soon as the diagnosis of the tongue-disease is definitely established. It affects the glands under the jaw, those along the anterior edge of the sterno-mastoid, and those over the carotid sheath, one set or all according to the location and the rapidity and duration of growth

of the original disease. Rarely is secondary visceral disease developed, as is true in yet greater degree in cancer of the lip.

The end-result of operations has been far from satisfactory, their mortality being high and recurrence very constant. In about 10 per cent. of the cases in recent years, the patients have promptly died (*e.g.*, 55 out of 548 operated upon by Kocher, Czerny, Volkmann, Billroth, Whitehead, Butlin, and at "Guys"), and that after operations of varying kinds and of very varying severity.

Whitehead's death-rate, when the excision affected the tongue only, was 4.5 per cent.

The percentage of secondary growths is at least 75, probably nearer 95, if we could get all the facts. Such percentage in Kocher's cases, the after-history of which was obtained, was about 66⅔ (twenty-five out of thirty-eight). Of Czerny's sixteen cases only one was well after two and a half years. Barker found only 17 out of 173 cases free from recurrence a year after operation.

The growths are found commonly in the glands and surrounding tissues, the unremoved portion of the tongue, and still more its stump when it has been taken away entire comparatively seldom showing recurrence after operation properly done.

These are certainly facts that indicate the wisdom of such an investigation as this we are now occupied with. True, though life is not saved it is unquestionably prolonged (Wölfler's six months' period is probably not too great), and at the same time made more comfortable. But something better must be secured, if possible, and it is possible if operations can be done earlier and especially more thoroughly.

Diagnosis once established, free excision of the affected area should be made without delay that glandular involvement may possibly be prevented. Even if the malignancy of the ulcer or the tumor is questionable, but little time should be spent in removing the doubt. Far better that now and then a tubercular or syphilitic tongue should be unnecessarily operated upon than that a carcinoma should be allowed to widely extend its area. What is the best method of operating? That which permits of

the readiest and most complete removal of the disease with least risk to life. No single procedure will always fulfil the indications; the choice of operation must be determined by the conditions of the individual case.

The extirpation of the disease may be done through the mouth, after division of the cheek or through an incision under the jaw with or without section of the inferior maxilla. When the growth has existed for but a very short time and is located in the free portion of the tongue, ablation of such free portion should be made with the knife, or better with the scissors. The attendant hæmorrhage is slight, the wound heals readily, and the functional value of the organ is but little impaired. Situated on the side or in the lateral mass in its anterior half, and of recent development, the Whitehead operation is unquestionably a good one, both as respects its safety and the after-condition of the tongue. Even when the disease is so extensive that the whole tongue must be taken away this method of operating answers well so far as the removal of the organ is concerned. But when the disease, no matter where it may be located, has existed for more than a very few weeks, the glands under the jaw are almost certainly affected, and in the cases as they ordinarily come under care they and often those along the sterno-mastoid can be easily felt if their enlargement be not so great as to cause a manifest swelling in the neck. Under such conditions an intrabuccal ablation of the tongue alone cannot but be followed by so-called recurrence, really not a recurrence, but development of disease already in progress at the time of the operation. Any operation, then, through the mouth, unless done very early and for a limited disease of the tip, or possibly of the side, should be supplemented by an exploratory incision in the submaxillary region, and the taking away of discovered glands. But even thus there is not effected the removal of infected ducts and adjacent tissue lying between the original growth and the nearest glands; and very often, certainly, if not very generally, there is such intermediate disease the leaving of which means failure to cure. If we are to materially increase our percentage of recoveries we must in this region operate more thoroughly, more widely. It is through the

neck and the floor of the mouth that we must reach the tongue, along such route only it being practicable to arrive at all the infected tissue; and in following such way hæmorrhage can be reduced to a minimum by ligating the vessels as they are reached, especially the linguals. As we all know, though, in the operations through the mouth bleeding can generally be largely controlled by the use of hæmostatic forceps and ligations in the wound. In the severer more advanced cases division of the lower jaw at the symphysis or on the side will often much facilitate the removal of the disease, and it has been shown that a temporary resection of a considerable portion of the body of the bone may be of great service. Advantages, and by no means slight ones, of the extrabuccal operation are the more thorough drainage that it secures, and the greater facilities that it affords for maintaining an at least approximately aseptic condition of the wound. When it is not the tongue, but the floor of the mouth under the free portion that is the seat of the trouble, operation through an incision below the jaw is easier, can be made much more thorough than through the mouth, even though the incisor teeth be extracted, permits of the ready removal of the suprahyoid gland, if necessary, of those in the submaxillary space, and secures very complete drainage.[1] What is the necessity for or advantages of the two preliminary operations, ligation of the lingual artery and tracheotomy, one or both? Neither, certainly, can be regarded as necessary; each may be of positive advantage as respects the controlling of hæmorrhage. Even in the intrabuccal operations after the lingual has been tied the field of operation is drier, the work can be done more deliberately and more safely it may be; and, further, in doing the ligation opportunity is afforded for the exploration of the submaxillary space and the removal of infected glands. Tracheotomy, besides its making possible plugging of the pharynx, permits of the maintenance of the anæsthesia, a thing not seldom impossible when the anæsthetic is given by the mouth.

[1] There is no question but that such complete drainage which cannot be secured in any intrabuccal operation greatly increases the chances of recovery. Without free drainage septic infiltration is very likely to occur.

Cancer of the pharynx other than by direct extension from contiguous parts is rare, and affects almost entirely the soft palate or the tonsil. Secondary and associated with grave disease of the tongue or cheek any operative interference is, as a rule having few exceptions, useless, and can only hasten the necessarily fatal termination of the case. Primary and confined to the velum it can be readily removed by knife, scissors, or the cautery; and if early and widely done, such extirpation is not unlikely to secure exemption from recurrence, if not altogether, at least for a considerable period of time. When it is the tonsil that is the seat of the disease, a condition of infrequent occurrence much rarer than sarcoma, extension to the deep-seated lymphatics so rapidly takes place that it is almost certain to have occurred before professional aid is demanded or diagnosis definitely established. Extirpation through the mouth with or without division of the cheek can very seldom be other than incomplete; and it may well therefore be questioned whether it is advisable. An extrabuccal operation, while it is more hazardous, does afford opportunity for the removal not only of the tonsillar mass, but of the accompanying enlarged glands. Whether or not the operation shall include division of the jaw is a question that in the light of our present experience cannot be definitely decided. The procedure of Czerny or that of Mickulicz permits, it may be, of more extensive removal than that of Cheever, but the ascertained facts are too few to warrant the statement that the ultimate result is more likely to be the one desired. Recurrence may in any given case be reasonably expected in from three to six months, if not even sooner. A patient of Mickulicz was free for about two years. For the operative procedure of the surgeon just named additional advantage is claimed in the greater freedom of the after-movements of the jaw, because of the removal of its upper part and the less extent of the adhesions formed in the healing of the wound.